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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,145	10/16/2001	David H. DaCosta	CU-2684 VE	6199

26530 7590 03/03/2003

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EXAMINER
WILSON, KATINA M

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/981,145	Applicant(s) DACOSTA ET AL.	
	Examiner Katina M Wilson	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *5-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 19* is/are rejected.

7)☒ Claim(s) *3 and 4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandrock et al (4566281) in view of Slonaker (5895861).

As to claims 1 and 19, Sandrock et al teaches a containment means 11 comprises a pressure resistant bottle having hydrogen gas line 12 entering through top 13 of the bottle. Containment means 11 contains hydridable metal 14 and filter 15, which prevents transfer of solid hydridable material or hydride thereof into hydrogen gas line 12. When one wishes to desorb hydrogen from the hydrided metal 14, valve 18 in hydride gas line 12 is opened and heat stored in heat storage medium 16 provides the heat necessary to maintain the endothermic desorption reaction at a reasonable rate. Any sorbent material will have a theoretical maximum capacity and an ascertainable total heat of reaction for capacity storage. In addition, it will posses an equilibrium absorbing pressure which rises with temperature. It is essential in accordance with the teachings of the invention that sufficient heat storage capacity be available with respect to the quantity of sorbent material so that the equilibrium absorbing pressure will not reach the supply pressure of hydrogen until at least about 60 % of the storage capacity of the sorbent material is utilized. The appropriate valve in hydrogen charging line 12

and discharging line 19 enables alternate, sequential or simultaneous charging or discharging of hydrogen from containment means 11, 11a, 11b, etc. (col. 1, lines 36-68; col. 2, lines 1-20; Fig. 1). Sandrock et al does not teach using a gauge, but using a valve. However, it is well know in the art to a skill artisan that one can replace valve, which control flow in and out of a system, with a viewing gauge. Where the gauge is for measuring pressure and temperature of a fluid as seen in Slonaker's combination pressure/temperature gauge (abstract).

As to claim 2, Sandrock et al does not teach a pressure gauge having a plurality of scales for reading the amount of hydrogen stored within said hydride material, each said scale being indicative of the amount of stored hydrogen at different temperature. However, Slonaker teaches a gauge for a hydronic heating systems to monitor both water temperature and system pressure. Additionally some prior art gauges have demonstrated the ability to measure both temperature and pressure in a single unit (col. 1, lines 57-63). Even though Slonaker does not explicitly teach the pressure gauge is for reading the amount of hydrogen stored within said hydride material, it is strongly suggested that the design and the function of the gauge is based on the type of system/container of interest.

Allowable Subject Matter

3. Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Berry 1629063 teaches a gauge with multiple scales for various functions (entire patent).

Mackay (4165569) teaches a hydride storage and heat exchanger system (entire patent).

Asami et al (4393924) teaches a heat exchange apparatus with use of hydrogen storing material (abstract, col. 2-5).

Nishizaki et al (4457136) teaches a porous member being permeable to hydrogen gas but impermeable to the metal hydride (abstract, col. 6-13).

Hochstein (5471881) teaches a two dimensional lenticular animation display containing two different scale images (abstract, col. 6-9).

Pearl 6094983 teaches a dial face to include one or more reference scales printed thereon, such as a temperature scale (col. 2-4).

Stetson et al 6099811 teaches a self-heating metal hydride hydrogen storage system (col. 4-7).

Brown et al (6260414 B1) teaches a liquid crystal liquid level indicator that determines the level of a cooled liquid by producing a color change that is a function of the liquid temperature when the liquid is within a predetermined temperature range (abstract, 9-15).

Closing

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katina M Wilson whose telephone number is 703-308-7958. The examiner can normally be reached on Mon-Fri 6:15am-4:00pm, off 1st Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E Williams can be reached on 703-305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-3432 for regular communications and 703-308-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HELEN KWOK
PRIMARY EXAMINER